Applicant: Teruo Okano, et a

Serial No.: 09/700.602 Filed : January 19, 2001

Page : 2 of 10

o.: 14399-002US1 / CH:HTO, Attorney's Dock

In the claims:

Please amend the claims as follows:

- 1. (Original) A method for separating substances characterized by chromatographically separating said substances with the use of a packing which contains a charged (co)polymer and makes it possible to change the effective charge density on the surface of a stationary phase by a physical stimulus while fixing a mobile phase to an aqueous system.
- 2. (Original) The separation method as claimed in Claim 1, wherein said physical stimulus is a change in temperature.
- 3. (Original) The separation method as claimed in Claim 2, wherein said packing is a chromatographic packing chemically modified on the surface of a carrier with a temperatureresponsive polymer.
- 4. (Currently Amended) The separation method as claimed in Claim 3, wherein said packing is a chromatographic packing chemically modified with a temperature-responsive polymer by using the a radical polymerization method.
- 5. (Currently Amended) The separation method as claimed in Claim 3 wherein said temperature-responsive polymer, with which the surface of the carrier is chemically modified, is a polyalkylacrylamide polymer or copolymer having an amino group, a carboxyl group, or a hydroxyl group in the side chains or at the ends.
- 6. (Original) The separation method as claimed in Claim 5, wherein said polyalkylacrylamide is one selected from among poly(N-isopropylacrylamide), poly(Npropylacrylamide), polydiethylacrylamide and polyacryloylpyrrolidine.
- 7. (Currently Amended) The separation method as claimed in any of Claim 1, wherein said substances are those selected from among metal elements, drugs and biological components.

Serial No.: 09/700,602 Filed: January 19, 2001

Page : 3 of 10

8. (Currently Amended) A method for separating substances characterized by retaining the substances in a stationary phase made of a chromatographic packing chemically modified with a polyalkylacrylamide copolymer having an amino **group**, a carboxyl **group**, or a hydroxyl group, then changing the hydrophilic/hydrophobic balance on the surface of the stationary phase by **the a** temperature gradient method wherein **the an** external temperature is changed stepwise, and passing the substances through a single mobile phase to thereby separate the same.

- 9. (Original) The separation method as claimed in Claim 8, wherein said mobile phase is an aqueous solvent.
- 10. (Previously Amended) The separation method as claimed in Claim 8, wherein said polyalkylacrylamide is one selected from among poly(N-isopropylacrylamide), poly(N-propylacrylamide), polydiethylacrylamide and polyacryloylpyrrolidine.
- 11. (Currently Amended) The separation method as claimed in **any of** Claim 8, wherein said substances are those selected from among metal elements, drugs and biological components.

12-14. (Withdrawn)

- 15. (New) The separation method as claimed in Claim 8, wherein the polyalkylacrylamide copolymer has a plurality of amino groups, a plurality of carboxyl groups, or a plurality of hydroxyl groups.
- 16. (New) A method for separating substances characterized by chromatographically separating said substances with the use of a packing which contains a charged (co)polymer and makes it possible to change the effective charge density on the surface of a stationary phase by a change in temperature while fixing a mobile phase to an aqueous system, wherein said packing is a chromatographic packing chemically modified on the surface of a carrier with a temperature-responsive polymer, with which the surface of the carrier is chemically modified, is a

Applicant: Teruo Okano, et Serial No.: 09/700,602

Filed

: January 19, 2001

Page

: 4 of 10

Attorney's Doc No.: 14399-002US1 / CH:HTO, PC/O-24-2US

polyalkylacrylamide polymer or copolymer having a plurality of amino groups, a plurality of carboxyl groups, or a plurality of hydroxyl groups in the side chains or at the ends.

17. (New) The separation method as claimed in Claim 16, wherein said packing is a chromatographic packing chemically modified with a temperature-responsive polymer by using a radical polymerization method.

18. (New) The separation method as claimed in Claim 16, wherein said polyalkylacrylamide is one selected from among poly(N-isopropylacrylamide), poly(N-propylacrylamide), polydiethylacrylamide and polyacryloylpyrrolidine.

19. (New) The separation method as claimed in Claim 16, wherein said substances are those selected from among metal elements, drugs and biological components.